

Claims

1. An arrangement for recirculation of exhaust gases in a supercharged combustion engine (1) whereby the arrangement comprises an exhaust line (3) intended to lead exhaust gases out from the combustion engine (1), an inlet line (6) intended to lead air at above atmospheric pressure to the combustion engine (1), a return line (7) which comprises a connection to the exhaust line (3) and a connection to the inlet line (6), so that via the return line (7) it is possible to recirculate exhaust gases from the exhaust line (3) to the inlet line (6), characterised in that the arrangement comprises a first 5 cooler (12) cooled by a first medium which is at a temperature substantially corresponding to the temperature of the surroundings, whereby the first cooler (12) is incorporated in the inlet line (6) downstream from the connection of the return line (7) to the inlet line (6) so that, when the exhaust gases are returned via the return line (7), said first cooler (12) cools a mixture of exhaust gases and air before the mixture is led 10 to the combustion engine (1).

2. An arrangement according to claim 1, characterised in that said first medium is ambient air.

20 3. An arrangement according to claim 1 or 2, characterised in that the arrangement comprises a second cooler (10) adapted to cooling the exhaust gases in the return line (7).

25 4. An arrangement according to claim 3, characterised in that the second cooler (10) is cooled by a liquid medium.

5. An arrangement according to claim 4, characterised in that the liquid medium is contained in a cooling system which is adapted to cooling the combustion engine (1).

30 6. An arrangement according to claim 5, characterised in that said first cooler (12) is arranged close to a cooler (14) for cooling the coolant in the cooling system.

7. An arrangement according to any one of the foregoing claims, characterised in that the arrangement comprises an EGR valve (8) incorporated in the return line (7).
8. An arrangement according to claim 7, characterised in that the arrangement
5 comprises a control unit (9) adapted to controlling the EGR valve (8).
9. An arrangement according to any one of the foregoing claims, characterised in that the arrangement comprises a turbine (4) driven by the exhaust gases in the exhaust line (3) which are not led into the return line (7), and a compressor (5) driven by said
10 turbine (4) so that it compresses the air in the inlet line (6).
10. An arrangement according to any one of the foregoing claims, characterised in that the combustion engine (1) is a diesel engine or an Otto engine.